PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

United States Patent and Trademark Office
(Box PCT)
Crystal Plaza 2
Washington, DC 20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 07 June 1999 (07.06.99)	
International application No. PCT/GB98/02937	**Applicant's or agent's file reference** P/1201.WO CLM
International filing date (day/month/year) 30 September 1998 (30.09.98)	**Priority date** (day/month/year) 30 September 1997 (30.09.97)
Applicant BLATT, Michael et al	

1. The designated Office is hereby notified of its election made:

   [X] in the demand filed with the International Preliminary Examining Authority on:

   27 April 1999 (27.04.99)

   [ ] in a notice effecting later election filed with the International Bureau on:

   _____

2. The election [X] was

   [ ] was not

   made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
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1211 Geneva 20, Switzerland

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PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
P001201WP CLM		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/GB98/02937	30/09/1998	30/09/1997
International Patent Classification (IPC) or national classification and IPC C12N15/29		
Applicant PLANT BIOSCIENCE LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

   ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☒ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
   - VI ☐ Certain documents cited
   - VII ☐ Certain defects in the international application
   - VIII ☒ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
27/04/1999	14.01.00
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Grosskopf, R Telephone No. +49 89 2399 8714

Form PCT/IPEA/409 (cover sheet) (January 1994)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB98/02937

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-123 as originally filed

Claims, No.:

1-56 as originally filed

Drawings, sheets:

1/43-43/43 as originally filed

2. The amendments have resulted in the cancellation of:

☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 1-17,19,21,23,24,26-31,34-37.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 1-17,19,21,23,24,26-31,34-37 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

   ☐ restricted the claims.

   ☐ paid additional fees.

   ☐ paid additional fees under protest.

   ☒ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

   ☐ complied with.

   ☒ not complied with for the following reasons:

   see separate sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

   ☐ all parts.

   ☒ the parts relating to claims Nos. 1-19,21-31,34-38.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	18,22,25,38
	No:	Claims	1
Inventive step (IS)	Yes:	Claims	18,22,25,38
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-19,21-31,34-38
	No:	Claims	

2. Citations and explanations

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Ad item IV:

The present set of claims lacks unity since the claimed subject-matter is not connected by a common inventive concept.
Thus, the present set of claims comprises at least the following groups of claims which are not linked by such an inventive concept e.g. represented by a common special technical feature.

(a) Claims 1 to 19, 21 to 31 and 34 to 38 which relate to proteins "capable of affecting an ABA response", the corresponding DNAs and methods using said products.
(b) Claims 39 to 51 which relate to an "assay method for screening interaction of a non-animal signalling component with a ligand".
(c) Clams 52 to 56 which relate to methods and products using or comprising "a compound identified by the assay method of Claim 51"
(d) Claim 20 which relates to "a protein selected using the method of Claim 19".
(e) Claim 32 and 33 which relate to a "compound selected using the method of Claim 31".

Strictly speaking, also group (a) gives rise to further objections for lack of unity since "proteins capable of effecting an ABA response" are known in the art and, therefore the alternatives in Claim 1 (or in other dependent claims) are no longer linked by a common inventive concept. This objection, at present, will not be prosecuted since unity of said group might be established once the Applicant overcomes other objections, namely characterising the protein by all features but not by alternative features.

Ad item III-V and VIII:

The specific protein which has been isolated and characterised in the present application is novel and not derivable in an obvious manner from any of the cited prior art documents (see Claims 18, 22 and 25).

However, most of the **claims** do not take into account of the disclosure of the present application in a proper manner and therefore give rise to several

objections.

Thus, as already outlined under item IV above, proteins which are capable of affecting an ABA response, are known in the art. Thus the connecting element in Claim 1 is known.
Therefore, strictly speaking, the different alternatives mentioned in Claim 1 (or in several of those claims which depend on Claim 1) are no longer connected by a common inventive concept.

Anyhow, when taking into account that the Applicant has isolated one (a single) protein, said protein should be characterised as precise as possible by an **assembly** of various properties (but not by a list of alternatives) which clearly define said protein and which, moreover, clearly distinguish it from known proteins.
The same applies, of course for the corresponding DNA.
The most precise and reliable characterisation in this respect is the indication of the sequence.
In contrast, the indication of vaguely and not precisely characterised subparts ("hydrophobic C-terminus" or "hydrophilic N-terminus"; how long should they be? "a nucleotide binding site"?) either alone or in combination with the itself vaguely defined function ("affecting an ABA response"), are not suitable to clearly characterise the protein isolated.

The same applies even more when considering "variants" of the claimed protein(s), the degree of variation not being limited in any manner.

Ad item III:

Finally, with the exception of Claim 38, claims directed to antisense sequences or cells comprising said sequences are also objectionable for essentially the same reason, namely lack of a proper characterisation and lack of unity.
In fact, in principle any nucleotide sequence which forms part of the antisense strand may constitute an antisense RNA and even sequences which merely "hybridise" to the coding strand.
Therefore, the scope of a claim which merely relates to "an" antisense RNA is

unlimited. Moreover, in the absence of introducing further features (length, region, homology etc.) the antisense sequence is not clearly characterised and is not even distinguishable from antisense sequences which are derived from totally unrelated other sequences.
Moreover, all possible sequences which are covered by such a claim, do not share a common technical, let alone a common special feature.